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CO₂ Welding set
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D e s c r i p t i o n

The invention relates to a CO₂ welding set with a gas torch, to which a wire feed unit supplies a welding wire and to which a pressure bottle supplies CO₂, and where the electric current needed for welding is derived of an electric power source in a housing.

With such devices, welding takes place via the fact that an electric arc is created between the welding wire and the work piece, since the electric power source is used to create a difference of potential between the wire and the work piece. The wire is moved to a wire nozzle; said wire nozzle is surrounded by a CO₂ nozzle, and the wire is melted during the welding process. CO₂ acts as inert gas for the weld pool.

The welding sets known so far have CO₂ bottles, which are mounted besides the unit. The bottles contain normally 6 or 10 kg. The CO₂ bottles are 70 - 90 cm tall and weigh approximately 100 kg. Such units are therefore difficult to transport and can not be used in high-altitude working places without the use of e.g. a crane. Units of this type are therefore to be considered as stationary due to the weight.

The purpose of this invention is the production of a CO₂-welding set without the abovementioned disadvantages, as one person should be able to transport the unit alone, and this purpose according to the invention is achieved by the fact that the pressure bottle is mounted into the housing.

Since the pressure bottle is so small that it can be mounted into the housing, it is possible to get a welding set with a weight of only 25 kg.

The unit can therefore be transported easily and can be carried to high-altitude working places.

It is achieved by the fact mentioned in claim 2, i.e. that the pressure bottle is a standard pressure bottle for use with household appliances, that it is easy to acquire pressure bottles and that these pressure bottles become very economical.

An easy and simple connection between the unit and the bottle is achieved by the fact mentioned in claim 3.

It is achieved by the fact mentioned in claim 4, i.e. that the valve is equipped with fastening devices for attaching the bottle to the welding set, that the bottle can be attached and that the valve can be opened with one single operation.

A very compact unit is achieved by the fact mentioned in claim 5, i.e. that also the wire feed unit and a wire spool and regulator devices for CO₂ are mounted together into the housing, where the individual components are well protected from physical overloading.

It is achieved by the fact mentioned in claim 6, i.e. that the housing is equipped with a cover, that the inside of the welding set is easily accessible for inspection.

It is achieved by the fact mentioned in claim 7, i.e. that the housing is equipped with a carrying handle, that the welding set can be transported easily.

The invention is following described in more detail with reference to the drawing, which shows a front view of the CO₂ welding set according to the invention.

In the drawing a welding set with a housing 2 is shown, where in said housing an electric power source is present. Furthermore the housing 2 is provided with a cover 7, which can be unlocked. A pressure bottle 1 is arranged under the cover 7, which can contain e.g. CO₂. The pressure bottle 1 is equipped with a threaded valve 6, and is attached with screws to the welding set. The valve is designed in such a way that it will open when it is screwed on, so that the unit will be provided with CO₂.

A pressure reducing valve 5 and a wire feed unit 4 with a wire spool 3 transmit CO₂ to the gas hose. All these components are well-known designs and are not described in more detail.

The housing 2 is equipped on the outside with control devices 8 and a carrying handle 9. The pressure bottle 1 is a commercial bottle, which can be used e.g. with a household appliance for the production of thirst-quenching beverages. The bottle will contain typically 300 grams CO₂, which is sufficient for 30 minutes of welding. This limitation of the welding time is however without meaning, since the pressure bottle 1 can be very easily replaced.

With other kinds of welding it can be of advantage, if the pressure bottle does not contain CO₂, but e.g. argon or another expedient gas.

One person can transport the entire unit easily using the carrying handle 9; it thus relates here to the only, portable welding set. It is therefore possible to use the welding set without the use of carrying devices e.g. during work with poles, both on ships and ashore.

P a t e n t c l a i m s

1. CO₂ welding set with a gas torch, to which a wire feed unit supplies a welding wire and to which a pressure bottle supplies CO₂, and where the electric current needed for welding is derived of an electric power source in a housing, c h a r a c t e r i z e d by the fact that the pressure bottle (1) is also mounted into the housing (2).

2. Welding set according to claim 1, c h a r a c t e r i z e d by the fact that the pressure bottle (1) is a standard pressure bottle for use with household appliances.

3. Welding set according to claim 1 - 2, c h a r a c t e r i z e d by the fact that the pressure bottle (1) is equipped with a valve (6), which is opened when the pressure bottle (1) is connected to the welding set.

4. Welding set according to claim 3, c h a r a c t e r i z e d by the fact that the valve (6) is equipped with fastening devices for attaching the bottle to the welding set.

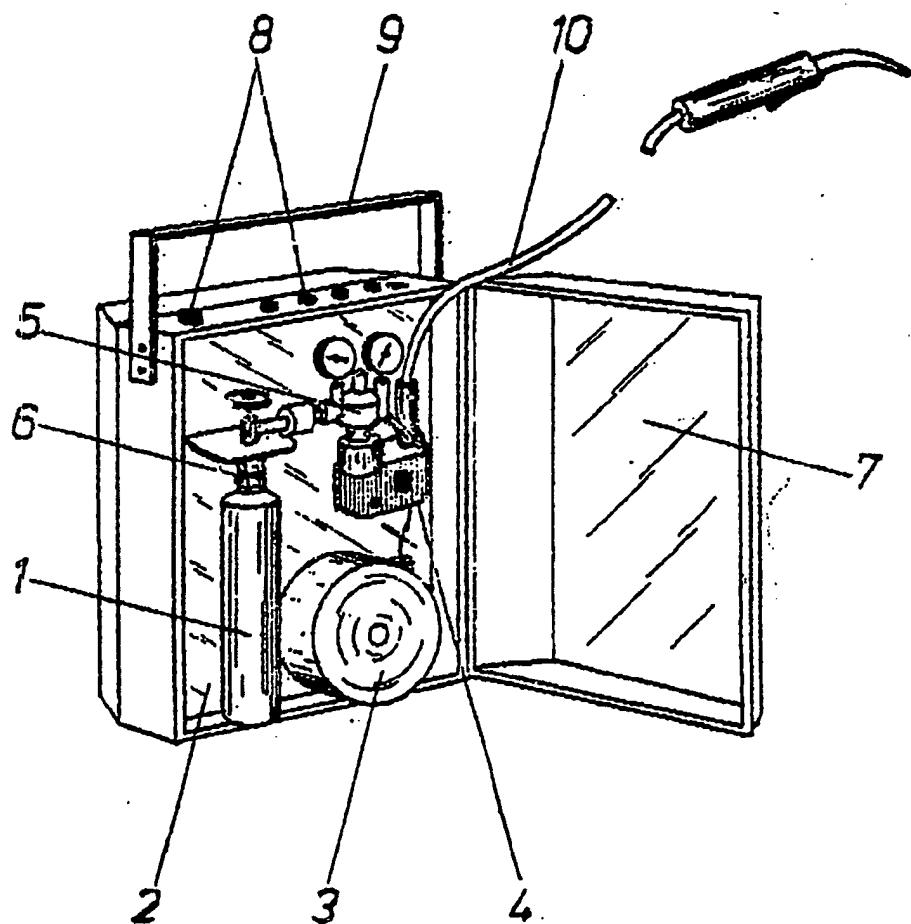
5. Welding set according to claims 1 - 4, c h a r a c t e r i z e d by the fact that also the wire feed unit (4) and a wire spool (3) and regulator devices for CO₂ are mounted together into the housing (2).

6. Welding set according to claim 5,

c h a r a c t e r i z e d by the fact that the housing
(2) is a closed box with a cover (7).

7. Welding set according to claims 1 - 6,
c h a r a c t e r i z e d by the fact that the housing
(2) is equipped with a carrying handle (9).

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